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EXAMINER

ZARNEKE, DAVID A

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL A. JASSOWSKI

Appeal 2008-0084
Application 09/475,643
Technology Center 2800

Decided: June 3, 2008

Before JOSEPH F. RUGGIERO, MAHSHID D. SAADAT, and CARLA M. KRIVAK, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Final Rejection of claims 1, 3, 5-8, 23-27, and 35-48. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant's claimed invention relates to a semiconductor device including a staggered array of bond pads with an outer ring of bond pads and an inner ring of bond pads arranged on a die having an edge and a core. Further included are driver cells for the outer ring of pads which are located on the outside of the bond pads between the outer ring bond pad and the nearest die edge. Driver cells for the inner ring of bond pads are located to the inside of the inner ring bond pads between the inner ring bond pad and the die core. (Specification 5-6).

Claim 1 is illustrative of the invention and reads as follows:

1. A semiconductor device, comprising:
 - a die having
 - a first edge;
 - a core;
 - a plurality of bond pads configured in a staggered array between
 - the first edge and the core, wherein the staggered array includes
 - an inner ring and an outer ring of bond pads;
 - a first plurality of driver cells located between the first edge and the
 - plurality of bond pads; and
 - a second plurality of driver cells located between the plurality of bond pads and the core.

The Examiner relies on the following prior art references to show unpatentability:

Hayashi	US 5,581,109	Dec. 3, 1996
Pendse	US 5,818,114	Oct. 6, 1998
Hiraga	US 6,091,089	Jul. 18, 2000
		(filed Oct. 20, 1998)

Claims 1 and 44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Pendse.

Claims 1, 3, 5, 6, 44, 45, 47, and 48 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Hiraga.

Claims 3, 5-8, 23-27, and 45-48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pendse.

Claims 7, 8, and 23-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiraga.

Claims 35-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pendse in view of Hayashi.

Claims 35-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiraga in view of Hayashi.

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hiraga in view of Pendse.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Brief and Answer for the respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Brief have not been considered and are deemed to be waived [see 37 C.F.R. § 41.37(c)(1)(vii)].¹

¹ As indicated at page 3 of the Answer, the Examiner has withdrawn the 35 U.S.C. § 102(b) rejection of claim 1 based on Hayashi, as well as the 35 U.S.C. § 103(a) rejection of claims 3, 5-8, 23-27, and 35-43 based on Hayashi alone.

ISSUES

- (i) Under 35 U.S.C. § 102(b), does Pendse have a disclosure which anticipates the invention set forth in claims 1 and 44?
- (ii) Under 35 U.S.C. § 102(e), does Hiraga have a disclosure which anticipates the invention set forth in claims 1, 3, 5, 6, 44, 45, 47, and 48?
- (iii) Under 35 U.S.C. § 103(a), with respect to appealed claims 3, 5-8, 23-27, and 45-48, would one of ordinary skill in the art at the time of the invention have found the claimed invention obvious over the teachings of Pendse?
- (iv) Under 35 U.S.C. § 103(a), with respect to appealed claims 7, 8, and 23-27, would one of ordinary skill in the art at the time of the invention have found the claimed invention obvious over the teachings of Hiraga?
- (v) Under 35 U.S.C. § 103(a), with respect to appealed claims 35-43, would one of ordinary skill in the art at the time of the invention have found it obvious to combine either one of Pendse or Hiraga with Hayashi to render the claimed invention unpatentable?
- (vi) Under 35 U.S.C. § 103(a), with respect to appealed claim 46, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Hiraga with Pendse to render the claimed invention unpatentable?

PRINCIPLES OF LAW

1. ANTICIPATION

It is axiomatic that anticipation of a claim under § 102 can be found if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1457 (Fed. Cir. 1984).

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992). Anticipation of a patent claim requires a finding that the claim at issue “reads on” a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed Cir. 1999) (“In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.”) (internal citations omitted).

2. OBVIOUSNESS

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears

the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)(quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

35 U.S.C. § 102(b) REJECTIONS

The rejection of independent claims 1 and 44 based on Pendse

With respect to the 35 U.S.C. § 102(b) rejection of independent claims 1 and 44 based on the teachings of Pendse, the Examiner indicates (Ans. 3-4) how the various limitations are read on the disclosure of Pendse. In particular, the Examiner directs attention to the illustration in Figure 3 of Pendse as well as the accompanying description beginning at column 3, line 50 of Pendse.

Appellant’s arguments in response assert that the Examiner has not shown how each of the claimed features is present in the disclosure of Pendse so as to establish a *prima facie* case of anticipation. Appellant’s arguments focus on the contention that, in contrast to the requirements of appealed claims 1 and 44, Pendse does not disclose a bond pad structure in which the bond pads are configured in a staggered array including inner and

outer rings. According to Appellant (Br. 12-13), while Pendse discloses two rows of pads 316 and 318, there is no disclosure that the bond pad rows are staggered and configured in inner and outer rings as claimed.

Our review of the disclosure of Pendse, however, finds ample evidence to support the Examiner's position. As disclosed at column 4, lines 16-19 of Pendse, "[i]n a radially staggered bond pad arrangement, every other pad is moved in the radial direction to form a second row," and Pendse illustrates the staggered bond pad row arrangement in Figures 3 and 7B of the drawings. Further, Pendse describes (col. 3, ll. 57-58) the staggered bond pad array as existing in a pad *ring* configuration.

In view of the above discussion, since all of the claimed limitations are present in the disclosure of Pendse, the Examiner's 35 U.S.C. § 102(b) rejection of independent claims 1 and 44 is sustained.

The rejection of claims 1, 3, 5, 6, 44, 45, 47, and 48 based on Hiraga

We also sustain the Examiner's anticipation rejection, based on Hiraga, of independent claims 1 and 44, as well as dependent claims 3, 5, 6, 45, 47, and 48 not separately argued by Appellant. We find no error in the Examiner's finding (Ans. 5-7 and 18) that the bond pad rows 5 and 6 in Hiraga are arranged in a staggered array and form inner and outer rings around the periphery of die 1. While Appellant is correct that Hiraga's disclosure explicitly uses the term "staggered" only with regard to bond pad rows 6 and 7, it is apparent to us that the ordinarily skilled artisan would recognize from the entirety of Hiraga's disclosure that bond pad rows 5 and 6 are also configured in a staggered relationship. For example, each time the

relationship of the bond pad rows 5 and 6 is illustrated in Hiraga, i.e., Figures 1A, 1B, and 3, the bond pad rows 5 are illustrated as being in a staggered configuration with bond pad rows 6.

35 U.S.C. § 103(a) REJECTIONS

We sustain all of the Examiner's obviousness rejections of the claims on appeal. Appellant has made no separate arguments for patentability of any of the claims subject to the Examiner's 35 U.S.C. § 103(a) rejections. Appellant has instead has relied on arguments (Br. 15-16 and 18-21) made with respect to independent claims 1 and 44 in regard to the Pendse and Hiraga references, which arguments we found to be unpersuasive as discussed *supra*.

CONCLUSION

In summary, we have sustained the Examiner's rejections of all of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1, 3, 5-8, 23-27, and 35-48 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

gvw

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